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MAT NO: 17/ENG06/053

DEPT: MECHANICAL ENGINEERING

COURSE: MEE 312.

SAQ 1

1. Compare flywheel with a governor
* A flywheel is a heavy rotating wheel that reduces the jerk due to unavoidable speed fluctuations while a governor is a speed controlling device that controls speed violations caused due to varying load.
* A flywheel is heavy with a large moment of inertia while a governor, is light with a relatively small moment of inertia.
* A flywheel runs as long as the engine is running while a governor, runs when the engine doesn’t run at its mean speed.
* A flywheel has no influence over the mean speed of the engine while a governor, has no influence on the cyclic fluctuations in speed.
1. What type of control is the governor system
* Mechanical feedback control system
1. Compare centrifugal governors with inertia governors
* The response of a centrifugal governor is slower than that of an inertia governor.
* A centrifugal governor is controlled by only centrifugal forces while an inertia governor, is controlled by both centrifugal and inertia forces.
* The revolving parts of a centrifugal governor are easier to balance than that of the inertia governor.
* The centrifugal governor is less sensitive than the inertia governor.

SAQ 2

 Why is the Watt governor rarely used?

* The watt governor is rarely used because it is limited to only vertical position applications and its sensitivity decreases with speed increase.

SAQ 3

 In which respect is the Porter governor better than the Watt governor?

* The porter governor is more sensitive at higher speeds than the watt governor and the porter governor can carry dead weight unlike the watt governor.

SAQ 4

For IC engines, what type of governor will you prefer; dead weight type or spring controlled type? Give reason.

* A dead weight governor is preferred in IC engines as the basic principle of engine operation is centrifugation.